

# CONSTRUCTION, SANITATION, AND HYGIENE

IN CHARGE OF  
M. E. P. DAVIS

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## A DESCRIPTION OF THE PROPOSED NEW LAUNDRY OF THE UNIVERSITY OF PENNSYLVANIA HOSPITAL

WITH SPECIAL REMARKS AND EXPERIMENTS UPON DISINFECTION IN  
CONNECTION WITH THE WORK OF HOSPITAL LAUNDRIES\*

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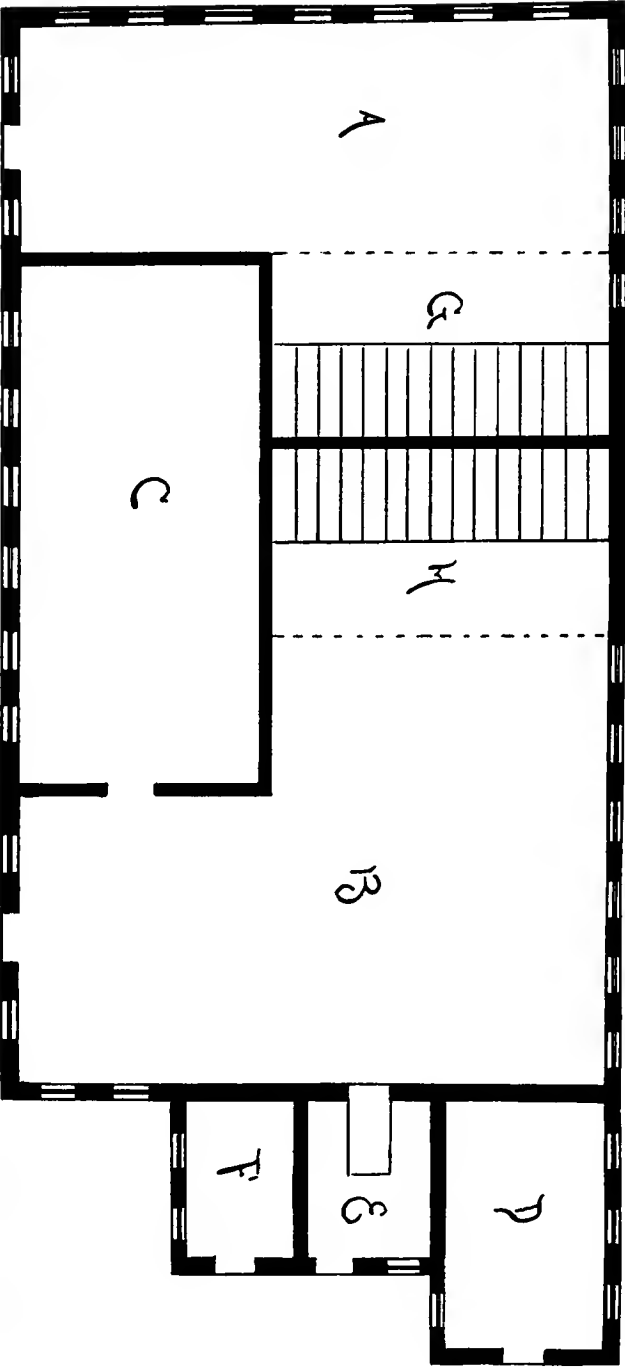
*(From the Laboratory of Hygiene, University of Pennsylvania)*

THE laundry that is about to be constructed for the University of Pennsylvania Hospital, the floor-plan of which accompanies this paper, has not been designed with any special views to architectural effect, but rather as a building arranged for work of a particular character. It is to be supplied with all necessary apparatus of modern pattern that is essential to the saving of labor and the proper performance of the functions of this department, and has been arranged with the special view of putting into practice those methods in the management of hospital laundry work that are essential in preventing the dissemination of disease through this channel.

The building when complete will be a one-story structure located upon the lawn of the hospital, within easy reach of the back entry. It is, roughly speaking, to be ninety feet long by fifty feet wide, and at the ridge of the roof has an elevation of eighteen feet.

The ceilings throughout are to be ten feet high. All rooms are to ventilate into the loft between the ceilings and the roof, from which the air is allowed to escape through a slatted cupola. The walls are to be of brick, thirteen inches thick, plastered but not furred on the inner surface. The floors are to be of concrete, with a fall towards central openings for drainage. The building is divided into two compartments; the one marked A in the accompanying plan having a floor surface of forty-eight by twenty feet, not including a drying-room of twenty-six by eight feet in area, is a private laundry in which the clothing of the resident staff and possibly that of a few private patients will be laundered.

\* Read at the International Congress of Charities, Correction, and Philanthropy, Section 3, 1893.



LAUNDRY, UNIVERSITY OF PENNSYLVANIA HOSPITAL

Scale  $\frac{1}{8}$  inch = 1 foot.

This section of the building is not in communication with the public laundry. It is entirely independent of it, being provided with its own drying-room and all apparatus necessary for the performance of the work coming within its scope.

The remaining space, B and C, will be devoted to washing and ironing the articles from the public wards. The room B is the wash-room proper, in which will be located three mechanical wringers or centrifugal machines. The room is forty-eight feet long by twenty-five feet broad at one end and forty-six feet broad at the other, and is in communication with a drying-chamber (H) that is twenty-six feet long by eight feet broad.

Room C is the ironing-room, in which will be located the mangle and tables for handwork. It has a floor surface of twenty-one by forty-four feet, and is abundantly supplied with light. Each place at the ironing-tables in this room is to be provided with a gas heater for the irons, as no stove for the purpose is to be used. The use of gas is preferable, because the individual can better regulate the temperature of the iron than when it is placed on the stove. On the stove the iron commonly becomes overheated, and is then cooled by dipping it into cold water, much to the detriment of its smooth, polished surface.

The spaces G and H are the drying-rooms for the private and public laundries respectively. They each have an area of two hundred and thirty-four square feet, and will be provided with the ordinary sliding clothes-racks nine feet in height. Between these racks there will be vertical, direct-radiation drying-coils, having a radiating surface in proportion to the air capacity of the chamber of about one square foot to five or six cubic feet of air; this, under steam pressure of fifty-five to sixty pounds, with properly proportioned inlet and outlet openings for ventilation, should insure complete renewal of the air in these rooms about twice per minute.

It should be needless to emphasize the necessity for high temperature and rapid ventilation for drying purposes, for the conditions calling for them are, on physical grounds, too obvious; but it is not uncommon to see such rooms arranged with coils for heating the air but with no provisions at all for permitting its escape when it has become saturated with moisture and is no longer effectual as a drying-agent. That the drying-rooms constructed in this way serve the purpose for which they were designed is due entirely to the natural exchange of air that occurs by leakage through cracks and crevices, but the amount of work that they are capable of doing in removing moisture under these circumstances is not by any means commensurate with what they could do had they the proper arrangements for permitting the free escape of

the saturated air with an equivalent ingress of air less rich in moisture. The drying-room of a laundry is no more complete without means for adequate ventilation than would be a drying-kiln for lumber without a fan for forcing air through it.

Room E is the disinfecting-chamber provided for the steam disinfecting apparatus. It communicates with the laundry only through the apparatus, the idea being that infected clothing or mattresses, when brought into this room, shall reach the laundry only after having been subject to the disinfecting action of steam.

Room F is a rinsing-room, in which chemical disinfection and subsequent rinsing of the disinfected articles can be performed before they are permitted to pass into the laundry proper. It will also contain a metal caldron provided with steam-coils for disinfection of small articles by boiling, when it is not desirable to operate the larger apparatus.

Over Rooms D, E, and F is to be a second story, consisting of a single room, in which mattresses and bed-clothing can be stored, aired, etc. It will be reached by a covered stairway located on the outside.

It is not the province of this communication to discuss the various methods of washing clothes, but rather to impress the importance of hospital laundries as factors in preventing the spread of contagion.

Those who are interested in the management of institutions intended for the care of the sick will, I think, agree that there are few departments of a hospital more potent for good in preventing the dissemination of infectious diseases when well and properly managed, or more liable to do harm when badly conducted, than is the laundry. It is here that are brought underclothing, bed-clothing, mattresses, and in some instances dressings from patients, many of whom are at times afflicted with diseases of a communicable character, and unless the necessity for special precautions intended to render harmless such materials is appreciated, harm may result, and such doubtless often has been the case.

The functions of the laundry are not limited to the space confined within the boundary of its walls, for it is not alone the treatment received by infected clothing when in the laundry that is of importance, but of equal moment are the precautions to be taken in removing it from the patient and conveying it from the ward. In these respects the greatest care is to be exercised by the attendant to whom the duties fall, in that neither he himself nor others in the vicinity may become infected. A number of plans, having for their object the removal of infected clothing from the wards of hospitals to the laundry, have been suggested, but relatively few of them are put to practical use.

(To be continued.)